What is claimed is:

1. 1. A method for communicating over a time-division duplex channel, comprising:

    2. (a) receiving a first packet at a first frequency from a first slave device

    3. via the channel, wherein said first packet is received beginning at a

    4. first slot; and

    5. (b) determining whether said first packet is a multi-slot packet, and if so,

    6. transmitting a second packet to a second slave device via the channel

    7. at a second frequency different from said first frequency, wherein

    8. said second packet is transmitted after said first slot and prior to the

    9. end of said first packet.

    1. 2. The method of claim 1, wherein said first packet comprises a header having a

    2. packet type code indicative of the slot length of said first packet, and said

    3. determining comprises inferring whether said first packet is a multi-slot packet

    4. based on said packet type code.

    1. 3. The method of claim 1, wherein said second packet is transmitted during the first

    2. available transmit slot.

    1. 4. A computer readable media embodying a method for communicating over a

    2. time-division duplex channel, the method comprising:

    3. (a) receiving a first packet at a first frequency from a first slave device

    4. via the channel, wherein said first packet is received beginning at a

    5. first slot; and

    6. (b) determining whether said first packet is a multi-slot packet, and if so,

    7. transmitting a second packet to a second slave device via the channel

    8. at a second frequency different from said first frequency, wherein

    9. said second packet is transmitted after said first slot and prior to the

    10. end of said first packet.

    1. 5. The computer readable media of claim 4, wherein said first packet comprises a

    2. header having a packet type code indicative of the slot length of said first packet,

    3. and said determining comprises inferring whether said first packet is a multi-slot

    4. packet based on said packet type code.

1　6.　The computer readable media of claim 4, wherein said second packet is
2　　　 transmitted during the first available transmit slot.

1　7.　A wireless device for communicating over a time-division duplex channel, said
2　　　 wireless device comprising:
3　　　 a first radio configured to receive a multi-slot packet at a first frequency from a
4　first slave via the channel, wherein said multi-slot packet is received during a first slot;
5　　　 means for determining whether said first packet is a multi-slot packet; and
6　　　 a second radio configured to transmit a second packet to a second slave
7　responsive to said means making a positive determination, wherein said second packet
8　is transmitted via the channel at a second frequency different from said first frequency
9　after said first slot and prior to the end of said first packet.

1　8.　The wireless device of claim 7, wherein said wireless device acts as a master to
2　　　 said first slave and said second slave.

1　9.　The wireless device of claim 7, wherein said wireless device comprises a
2　　　 network access point coupled to a network.

1　10.　The wireless device of claim 7, wherein said first radio comprises a receive-only
2　　　 radio.

1　11.　The wireless device of claim 7, wherein said first and second radios comprise
2　　　 2.4 GHz Bluetooth radios.

1　12.　The wireless device of claim 7, wherein said first packet comprises a header
2　　　 having a packet type code indicative of the slot length of said first packet, and
3　　　 said means for determining comprises means for inferring whether said first
4　　　 packet is a multi-slot packet based on said packet type code.

1　13.　The wireless device of claim 7, wherein said second packet is transmitted during
2　　　 the first available transmit slot.

1　14.　A method for selectively utilizing a plurality of transceivers to facilitate
2　　　 communications between a primary device and a plurality of secondary devices
3　　　 in a network, the method comprising:

4   (a) defining a duplex communication channel using a plurality of time

5   slots and a plurality of communication frequencies, each time slot

6   having an associated communication frequency;

7   (b) tuning a first transceiver to a sequence of frequencies based on the

8   passing of time slots;

9   (c) detecting a first portion of a multi-slot packet in a first time slot;

10   (d) timing said first transceiver to the communication frequency

11   associated with said first slot for a number of slots needed to

12   correspond to said multi-slot packet; and

13   (e) during said number of slots, tuning a second transceiver to

14   communication frequencies in accordance with the defined duplex

15   communication channel.

1   15.   A method for communicating between a primary device and a plurality of

2   secondary devices in a network, the method comprising:

3   (a) defining a duplex communication channel using a plurality of time

4   slots and a plurality of communication frequencies, each time slot

5   having an associated communication frequency;

6   (b) receiving a first portion of a packet from a secondary device in a first

7   time slot at a first communication frequency; and

8   (c) during a second time slot,

9   transmitting a packet using the communication frequency

10   associated with said second time slot in the definition of the

11   duplex communication channel, and

12   receiving a second portion of said packet from said

13   secondary device at said first communication frequency.

1   16.   A system comprising:

2   a time-division duplex channel;

3   a first slave device configured to transmit a first packet over said time-division

4   duplex channel at a first frequency during a first time slot;

5   a master device, configured to receive said first packet, to determine whether

6   said first packet is a multi-slot packet, and if so, to transmit a second packet over said

7   time-division duplex channel at a second frequency different from said first frequency,

8   wherein said second packet is transmitted after said first slot and prior to the end of said

9   first packet; and

10   a second slave device configured to receive said second packet.

1   17.   The system of claim 16, wherein said master device is master of a piconet that

2   includes said first slave and said second slave.

1   18.   The system of claim 16, wherein said master device comprises a network access

2   point coupled to a network.

1   19.   The system of claim 16, wherein said first packet comprises a header having a

2   packet type code indicative of the slot length of said first packet, and wherein

3   said master device is configured to infer whether said first packet is a multi-slot

4   packet based on said packet type code.

1   20.   The system of claim 16, wherein said second packet is transmitted during the

2   first available transmit slot.